

90/05 01

B·A·R·G NEWS

MAY

1990



© **Monthly Newsletter of the
Ballarat Amateur Radio Group**

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90/05 02

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NEWSLETTER EDITORS	Bob Terrill	VK3BNC	395317	391001
	Harry Hekkema	VK3KGL	357563	391001

PEPEATERS: VK3RBA - 146.750 Voice. Mt. Buninyong. (Ch.3)
 VK3RBS - 146.900 Voice. Smeaton Hill. (Ch.6)
 VK3RPC - 147.575 Packet. Mt. Buninyong.

CLUB NET : On 3.610 Mhz. SSB +/- QRM.
 Every Thursday at 8 PM.

MEETINGS : Held every last Friday of
 month at 7.30 PM. in the
 Ballarat Community Education Centre.
 Hopetoun St.
 Ballarat.

Chat-n-Chew
 Coffee Lounge
 14 Doveton St. Nth. Ballarat
 Ph 053 317303

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90/05 03

MINUTES OF GENERAL MEETING HELD 28th APRIL 1990.

MEETING OPENED by Vice President Ian AXH who welcomed the 25 members and visitors VK3 KG and VK3 ADJ.

APOLOGIES VK3 kgc,vej,xex,ccb,cjh,gs,gi,cif,mmc,xoa ymw,ait,cuh,ata,niz.

MINUTES of previous meeting as circulated were confirmed. TOM/NWN

CORRESPONDENCE IN WIA WESTERN ZONE re proposed repeater on Ben Nevis.

TREASURERS REPORT General a/c \$ 383.67 VS&L a/c \$2424.15.
Accounts for 63.69 passed for payment. KGL/DOK

EDUCATION Ian AXH reported that 11 students are attending classes.

CLUB NET. Net is still active but very few outside call ins.

TECHNICAL RBA is still operating on reduced power awaiting the new Power Supply.
Moved TOM seconded BNC that any parts suitable in old power supply be utilised in new one. carried.

QSL BUREAU Jeff PAP reported that approx 350 cards have been received and 800 were sent out. Bureau now appears to be settling down.

GENERAL BUSINESS Working Bee to be held at DKJs QTH to finish erecting tower.
Moved CAZ seconded BTX that CJH be reimbursed for cost of concrete used in this project. carried.
Moved BNC seconded CAZ that secretary inform WIA Western Zone that the Club has received no official information re construction of repeater on Mt Ben Nevis. carried

HAMVENTION 1990 Moved WN seconded DOK that the hamvention be held again this year on October 28th. Carried.
Kevin WN has consented to be convener again and will be looking for assistance.
Moved CAZ seconded BNC that Club purchase second hand Drake receiver. Carried. (I didn't get the price, will include it in next months minutes) Got it! \$100.00.

MEETING CLOSED at 8.50pm. 73s Jim CFB.

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NEXT BARG MEETING is the Anual Junk Sale. Friday 25th May. 7.30pm at
at Ballarat Education Centre.

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90/05 04

QRP CORNER

Have you ever sat and fiddled with the drive control of your transmitter and decreased the power output to see how far you could get on the lowest power? Perhaps the next question may have been - Well why did I spend all those dollars on a "QRO" rig when in fact a "QRP" rig would have done the job. This is getting rather simplistic but it does focus on a point we so often use a sledge hammer when in fact a tack hammer would have been just as effective. Perhaps there will be those that will say - can't be done, won't work, can't get parts, has no resale value and with a little bit of luck - great when can we start.

O.K lets get down to the QRP business. The art of communicating with the least power that we can, in fact less than 5 watts, or better still less than 1 watt (QRP-p).

In this corner what I would like to do is to encourage people to have a go at building very simple equipment at very little cost and above all get a great kick out of getting your own gear on the air "home brew here O.M".

Still with us? great, well lets look at it a bit further. QRP is just another of those facets that amateur radio can offer to those willing to get their feet wet. It has a world wide following with a number of clubs with which you may wish to link up with.

Throughout this series reference will be made to material from various clubs and other amateurs interested in this "art form". We will look at various projects which you may like to build perhaps as a complete QRP station or bits and pieces that you can build and integrate into your total station complex.

Perhaps just to wet your appetite for QRP, I can recall working a station down in Mallacoota with a transmitter input power of only 25 milliwatts. Whilst this is not meant to represent any great achievement it does demonstrate what can be done with very low power and simple equipment. It goes without saying that with such low power the matching to either a make shift antenna or the main station antenna system needs to have some special care. We will be giving this problem some special attention and perhaps understand that nebulous term "swr" a little better.

Looking further down the track we may be able to look at own club awards for QRP operating and or construction.

I would like to make a plea at this point and hope this will become a fun series and your input will be most welcome. Any articles, on air comments, or whatever will help to steer my thinking.

Happy QRPing, 73 Bob Vk3bnc.

WANTED/FOR SALE.

Can anyone help with a circuit or any other details for an ex Army F.M Transceiver type C42. I can photostat and return originals if required.

Details to Bob, VK3BNC, 053 395317 Thankyou.

90/05 05

DX AND QSL INFORMATION

Hi Again, how is the DX in your neck of the woods ?, have you had a callsign come back to a CQ and not know where they come from. ie V63AT, V73AB, well it has in my case. So I will from time to time list a few of these which may help you out.

The micronesia islands had the prefix KC6, but are now the Federated States of Micronesia with the prefix V63AA to V63ZZ. The Marshall Islands had the prefix KX6, they are now the Republic Of The Marshall islands V73AA to V73ZZ.

QSL Routes,

WAS	IS	QSL ROUTE
KX6DC	V73AZ	KX6DC
KX6OI	V73AQ	KX6BU
KX6HE	V73AU	N8BZ
KX6HE	V73AT	K2CL

9L1US,9L1SL...	QSL ROUTE	W8JOC.
V47KTG	QSL ROUTE	AI6M.
HSØB.....	" "	NY2E.
P29VMS.....	" "	DL2GAC.
YL1WW.....	" "	UQ1GWW.
VR6JR.....	" "	G3OKQ.
5W1AU.....	" "	W6KNH.
VP2VE.....	" "	WA2NHA. (H.MESSING,90 NELLIS Dr WAYNE NJ 07470.)
C21DD.....	" "	P.O.Box 177 NAURU.
OD5FK.....	" "	P.O.Box 16-5443 BEIRUT LEBANON.
JT1BY.....	" "	P.O.Box 470 ULAN BATOR MONGOLIA.
LQ9DX.....	" "	P.O.Box 36 BUENOS AIRES,ZIP 1834 ARGENTINA.

TN4NW,9Q5NW,TL8TG,5V7NW,ZS6USA, TU2NW,6W8/N4NW, QSL VIA
THOMAS BROWN KC4NB
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NORFOLK ISLAND VIRGINIA
23508 U.S.A.

73's and good DX
CLIFF de VK3CCB.

FOR SALE.

There is still some items of equipment available from
Leo's clean out.
Experimenter's board type "Wishboard" 104-1 in wooden box
\$15.00
UHF/VHF Down converter-Archer \$25.00
Digital Multimeter Dick Smith model Q 1528.(See page 81
of latest Cat) \$110.00.
Details contact Bob VK3BNC.Phone (053) 395317 A.H or
391001 B.H

90/05 06

QUESTION TIME
=====

These questions are provided as an informative exercise into your knowledge of subjects concerned with Amateur Radio.

The sources of the questions are books available to most operators and are such publication as:

ARRL Handbook Radio Communication Handbook RSGB etc.

I will try and keep the questions and subjects as general as possible so that other sources should be able to provide suitable answers.

ANSWERS TO LAST MONTH:

- 1) The Diayer absorbs radio signals
- 2) F1,F2,E,Sporadic E,D layers
- 3) F1 and F2 layers combine.
- 4) Refraction
- 5) Sporadic E.It has a major influence of frequencies above approx 21Mhz
- 6) Maximum Usable Frequency. Lowest Usable Frequency
- 7) Ultraviolet radiation.
- 8) D Layer
- 9) MUF rises in frequency
- 10) 11 years

The subject for this month is SEMICONDUCTORS.

- 1) The atom comprises of two charged particles,what are they called and what is their polarity?
- 2) When a current flows through a conductor,what charged particle does this involve?
- 3) A Diode comprises of two types of semiconductor,name them?
- 4) The diode also has a layer,what is this layer called?
- 5) When the diode is reverse biased what happens to this layer?
- 6) In the case of a silicon diode what is the voltage drop accross it when it is forward biased?In the case of a Germanium diode?
- 7) For a diode to act in its zener region is it forward or reverse biased?
- 8) In the symbol for a NPN transistor does the arrow on the emitter point in or out?
- 9) With a transistor in a common emitter amplifier,what DC quantity would indicate if the transistor was silicon or germanium?
a) Vce b) Ib c) Vbe d) Ic e) Output Voltage f) Input Voltage g) Rc
- 10)The DC gain of a transistor is refered to as Hfe,but what Greek letter is also used to define DC gain?

Answers next month...

73's TON VK3ION

DON'T FORGET THE JUNKSALE !!!

ON THIS FRIDAYNIGHT'S MEETING.

Bring along all your not wanted gear or junk.

Next month AGH.!!!

All positions will be available again!!!

JUNE BARG meeting - A.G.H.

90/05 07

If you build a fairly high current power supply there is always the worry in the back of your mind "am I drawing so much current that I am overtaxing the capability of the mains transformer and risking my rig in the process ?"

Well if you have a digital multimeter then you can put your mind at rest with a simple resistance measurement.

With the transformer wound with copper wire then just two measurements of resistance and reference to a thermometer will either set your mind at rest or may induce an expression of horror.

The temperature coefficient of annealed copper wire is 0.0039 per degree C.

So if the resistance of a piece of copper wire has increased by 3.9% then its temperature has increased by 10 degrees C.

Start by measuring the resistance of one of the windings (preferably a high resistance one) with the equipment switched off and at ambient temperature. Note the ambient temperature and then switch on the equipment and let it run for a period and reach operating temperature. Then disconnect the winding as quickly as possible and measure its resistance. This will have increased and reference to the table will indicate the rise in temperature above ambient.

Remember that the temperature found is ABOVE AMBIENT and ambient temperature of a crowded chassis on a hot day may well run up to about 45 degrees C. Since it is very unwise to operate a transformer at temps in excess of 100 degrees that only leaves a "leeway" of 55 degrees in hand for safeties sake.

In normal operation it is wise to limit the winding temperature rise to below about 35 degrees for really long life and reliability.
NOTE the table is based on a 4% (not 3.9%) resistance increase

WIRE RESISTANCE INCREASE (%)	TEMPERATURE Above AMBIENT (°C)
1	3
2	5
3	8
4	10
5	13
6	15
7	18
8	21
9	23
10	26
11	28
12	31
13	33
14	36
15	38
16	41
18	46
20	51
25	64
30	77
35	90
40	103

90/05 08

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